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Penn E&R
Environmental & Remediation, Inc.

October 19, 2001
4013-20000

VIA OVERNIGHT MAIL

Mr. Joseph McDowell (3HS21)
Remedial Project Manager
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, Pennsylvania 19103

Subject: Report of Finding for Excavation No. 2 on Liberty Property Trust's 2301 Renaissance Boulevard Property, Upper Merion Township, Pennsylvania

Dear Mr. McDowell:

As you are aware, during the reconfiguration of Detention Basin #1 on Liberty Property Trust's (LPT's) 2301 Renaissance Boulevard property, a small area of soil mixed with coal tar was encountered. This area, which was designated Excavation No. 2, was remediated through the removal and off-site disposal of the potentially impacted soil. This report of findings provides a discussion of pertinent background information, the remedial and post-excavation sampling activities that were implemented in Excavation No. 2, and the focused risk assessment that was completed to verify the effectiveness of the remedial activities.

BACKGROUND

In accordance with approved construction plans, LPT recently completed the reconfiguration of Detention Basin #1 located on their 2301 Renaissance Boulevard property. As shown on Figure 1, Detention Basin #1 is located in the north central portion of the site along Renaissance Boulevard. During the reconfiguration activities, small pieces of coal tar mixed with soil were encountered in an area located just northeast of the former outfall for Basin #1. This area was subsequently designated Excavation No. 2. The limits of Excavation No. 2 were determined by installing test trenches around the perimeter of the area where the impacted soils were initially encountered. The location of Excavation No. 2 with respect to Detention Basin #1 is shown on Figure 2.

As discussed below, the potentially impacted material located in Excavation No. 2 was remediated prior to the reconfiguration of the basin. As can be seen from Figure 2, Excavation No. 2, which was backfilled with clean soil after completion of the remedial activities, is

currently located beneath the southeast berm of the detention basin. The soil used to construct the berm over a majority of Excavation No. 2 is over 4 feet thick. The detention basin has been installed as a permanent structure and will be lined with a 40-mil liner.

REMEDIAL ACTIVITIES

During the reconfiguration of Detention Basin #1, an area of soil mixed with coal tar was encountered near the southeast corner of the basin. This area was designated Excavation No. 2 and its location is shown on Figure 2. Excavation No. 2 consisted of small pieces of coal tar mixed with soil. The surface of Excavation No. 2 originally coincided with grade level. However, as part of on-site construction activities, Excavation No. 2 was covered with about 1 to 1.5 feet of clean soil. The limits of Excavation No. 2, as shown on Figure 2, were initially determined by installing a series of test trenches around the perimeter of the area. The subsequent removal of impacted soils from this area, as discussed below, confirmed the limits of Excavation No. 2.

As part of the remediation of this area, the 1-1.5 feet of clean soil located over Excavation No. 2 was removed and stockpiled in an area separate of the potentially impacted material that was subsequently removed from this area. After removing the clean overburden material, the small pieces of coal tar and impacted soil was removed. The potentially impacted material removed from the excavation was stockpiled on and covered with plastic.

The excavation activities proceed until all coal tar and visually impacted soil had been removed. As shown on Figure 2, the dimensions of Excavation No. 2 were approximately 20 feet long by about 15 feet wide. The depth of the excavation varied but generally was from 3 to 4 feet deep. In all, about 30 cubic yards of potentially impacted soil mixed with coal tar was removed from Area 2. This soil was subsequently transported to R3 Technologies, located in Morrisville, Pennsylvania for thermal destruction. A copy of the manifests documenting the off-site disposal of this material is included in Appendix A.

After removing all potentially impacted soil, two post-excavation soil samples were collected from the excavation. These samples were designated SR-9 and SR-10 and they were collected at the locations shown on Figure 3. Sample SR-9 was collected from the northern sidewall and sample SR-10 was collected from the bottom of the excavation. The post-excavation samples were collected at locations approved by EPA's oversight contractor from Dynamac.

The post-excavation soil samples were submitted for the laboratory analysis of lead and the polynuclear aromatic hydrocarbons (PAHs) benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, and dibenzofuran. The samples were analyzed by CompuChem, an EPA approved CLP laboratory located in Cary, NC. The organic analyses were performed using USEPA Method OLM04.2 and the metal analyses were performed using USEPA Method ILM04.1.

The results of the analysis of the post-excavation soil samples are summarized in Table 1 and a copy of the laboratory data sheets is included in Appendix B. A review of Table 1 reveals that a

few of the tested PAH compounds were detected in each of the samples at low concentrations. Lead was detected at consistently low concentrations in both samples.

Upon completion of the remedial activities, the excavation was backfilled to its original pre-construction grade. Upon completion of the backfilling activities, the berm associated with the reconfigured Detention Basin #1 (see Figure 2) was installed over the former location of Excavation No. 2. Excavation No. 2 is currently covered with up to 4 feet of clean soil associated with the southeast portion of the outer berm for the reconfigured Detention Basin #1.

FOCUSED RISK ASSESSMENT

As discussed above, post-excavation soil samples were collected from Excavation No. 2 after the remedial activities had been completed and all potentially impacted material had been removed. However, no site-specific cleanup standards for Excavation No. 2 were included in the Record of Decision (ROD) developed by the USEPA for the Crater Resources Superfund site. Therefore, based upon discussions with and approval of the USEPA, a Focused Risk Assessment (FRA) was implemented using the results of the post-excavation samples to evaluate the effectiveness of the remedial activities implemented in Excavation No. 2. Potential risks to industrial and on-site adult construction workers were evaluated.

This FRA was performed using current EPA guidance for preparing risk assessments at Superfund sites, following a discussion with EPA on appropriate receptors. This risk assessment was conducted with the same assumptions and exposures used to conduct the Baseline Risk Assessment for the Crater Resources Superfund site. The RFA included the following components:

- Hazard Identification
- Toxicity Assessment
- Exposure Assessment
- Risk Characterization

These components were completed sequentially and are discussed in the following sections.

Hazard Identification

The constituents of potential concern (COPC) identified in post-excavation soil samples included lead and the PAHs benzo(a)anthracene, benzo(b)flouranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, and dibenzofuran. The maximum reported concentrations and their corresponding arithmetic mean are presented in Table 2.

Toxicity Assessment

This section presents toxicity criteria and information that relates constituent exposure (dose) to anticipated health effects (response) for each COPC. Toxicity criteria derived from dose-

response data were used in the Risk Characterization to estimate the carcinogenic risk and non-carcinogenic hazard associated with exposure to the identified COPCs.

Toxicity criteria used in this FRA were obtained from the EPA Integrated Risk Information System (IRIS) on-line database, the Health Effects Assessment Summary Tables (HEAST) (EPA, 1997) and the EPA's National Center for Environmental Assessment (NCEA) (EPA, 2000).

Table 3 presents available oral (CSFo), dermal (CSFd), and inhalation (CSFi) cancer slope factors used to evaluate carcinogenic risk and oral (RfDo), dermal (RfDd), and inhalation (RfDi) chronic reference doses used to evaluate non-carcinogenic risks. Available inhalation unit risk factors were converted into inhalation slope factors and inhalation reference concentrations were converted into inhalation reference doses in accordance with EPA guidance (1989). Interim toxicity criteria obtained from NCEA are also included in Table 3 for certain RfDs, which were not available in IRIS (2000) or HEAST (1997).

Exposure Assessment

The exposure assessment evaluated the likelihood, magnitude, and frequency of exposure to COPCs, and identified pathways and routes by which human receptors may come into contact with these constituents. The specific steps involved in the exposure assessment included:

- Identifying potentially exposed populations;
- Identifying media of concern;
- Identifying actual and potential exposure routes;
- Establishing exposure parameters; and
- Estimating exposure doses.

Since the post-excavation soil samples were collected at depths greater than 2 feet and the area is covered with up to 4 feet of clean soil, the most likely human receptor is on-site construction workers. Additionally, in order to be conservative, potential exposures to long-term industrial workers were also evaluated. Potential exposure routes for soil-based constituents include oral ingestion of soil, dermal contact with soil, and inhalation of fugitive dusts. However, contact with the COPC remaining in the soils in Excavation No. 2 via these pathways will be limited because a majority of Excavation No. 2, as indicated above, has been and will remain covered with up to 4 feet of clean soil associated with a berm for an adjacent detention basin.

The equations used to calculate oral intake and inhalation intake are included in Tables 4, 5, and 6 for oral, inhalation, and dermal exposures, respectively. The various exposure assumptions are presented in these tables, and are identical to the assumptions used in the EPA baseline risk assessment of the Crater Resources Superfund site.

As indicated in Tables 4 through 6, exposure assumptions are provided for both Reasonable Maximum Exposures (RME) and Central Tendency Exposures (CTE). The primary difference between the RME and CTE involves the duration of exposure and magnitude of constituent

concentrations. The RME is based on the maximum detected value while the CTE is based on the arithmetic mean of all samples.

Risk Characterization

The results of the exposure assessment (i.e. calculated intakes) were integrated with toxicity information, using EPA's current approach, to derive quantitative estimates of potential risk associated with the previously defined exposure scenarios. Risk estimates were calculated following standard procedures outlined in EPA's Risk Assessment Guidance for Superfund/Part A (EPA, 1989) with the results compared to levels of acceptable risks defined by EPA (1990).

Non-carcinogenic hazard for each identified COPC was calculated using the methods described by EPA (1989). A hazard quotient was computed for each COPC by determining the ratio of the calculated chemical intake to the appropriate reference dose. Hazard indices (HI) were then calculated as the sum of all appropriate hazard quotients, to fully evaluate potential non-carcinogenic hazard associated with a defined exposure.

The non-carcinogenic risk is presented in Table 7 for RME and Table 8 for CTE. The data indicates the total non-carcinogenic risk is well below a HI of 1.0 for both the construction worker and industrial worker. This suggests it is very unlikely that either construction or industrial workers would be exposed to unacceptable non-carcinogenic risks in the area of Excavation No. 2 on the LPT property.

Carcinogenic risk was calculated for each COPC as a product of the constituent intake and the chemical-specific carcinogenic slope factor. Under each defined scenario, estimated human health risks for each carcinogenic constituent is summed to derive a total risk associated with a specific route of exposure (e.g., inhalation). The resulting risk is then compared to acceptable risk as defined by the EPA (1990) in the National Oil and Hazardous Substances Pollution Contingency Plan (i.e., 1×10^{-7} to 1×10^{-4}).

The carcinogenic risk for the identified COPCs is presented in Tables 9 and 10 for RME and CTE exposures, respectively. For RME exposures for construction workers, the total carcinogenic risk for oral exposure to COPCs is 8.8×10^{-7} while the total carcinogenic risk with inhalation of fugitive dust is 3.5×10^{-9}. The combined risk for exposure for oral and inhalation exposures is less than 8.8×10^{-7}. This is well within the range of acceptable risk of 1×10^{-7} to 1×10^{-4}. The total calculated risk for CTE exposure was 1.4×10^{-7}. For RME exposures for industrial workers, the total carcinogenic risk for oral exposures to COPCs is 3.7×10^{-6} while the total carcinogenic risk with inhalation exposures is 1.4×10^{-7}. The combined carcinogenic risk for industrial workers is 3.8×10^{-6}, which is also within the acceptable risk range stated above. The CTE exposure for the industrial worker is 7.5×10^{-8}.

Lead cannot be evaluated in a quantitative risk assessment because there are no current toxicity values for this constituent. Generally, lead levels are screened in soil against recommended guidelines for lead. Current lead guideline levels are 400 mg/kg for bare soil in areas that children are likely to use and 2,000 mg/kg for soil in areas where contact with children is

considered less likely. Because the highest reported lead concentration in Excavation No. 2 soil (40.8 mg/kg) is well below recommended EPA and PADEP cleanup standards, current lead levels in the soil do not present a human health concern. As such, no further evaluation of lead was completed as part of this FRA.

SUMMARY

During the reconfiguration of Detention Basin #1 on LPT's 2301 Renaissance Boulevard property, a small area of soil mixed with coal tar was encountered. This area was subsequently designated Excavation No. 2. Based on the presence of this material, potentially impacted soil located in Excavation No. 2 was remediated. In all, about 30 cubic yards of soil mixed with coal tar was removed and recycled off-site at a properly permitted facility. Upon completion of the remedial activities, two post-excavation soil samples were collected from Excavation No. 2. A Focused Risk Assessment (FRA) was implemented using the results of the post-excavation samples to verify the effectiveness of the remedial activities. Based on the results of the FRA, soils remaining in Excavation No. 2 do not pose an unacceptable risk to industrial or on-site construction workers. As such, Penn E&R does not recommend any additional investigation or remediation of Excavation No. 2 soils.

Should you have any questions regarding the contents of this report or any other project-related issues, or if you require additional information, please do not hesitate to call us.

Sincerely,
PENN ENVIRONMENTAL & REMEDIATION, INC.

Michael A. Christie, P.G.
Vice President

DAC:dlc
Enclosure
4013:area2rpt

cc: Dave Minsker, PADEP (w/2 copies of enclosure)
Andrew Frebowitz, Tetra Tech NUS (w/2 copies of enclosure)
Ronald Wagenmann, Upper Merion Township (w/enclosure)
Joseph Bartlett, Upper Merion Environmental Advisory Council (w/enclosure)
Jim Shelton, Malcom Pirnie (w/enclosure)
Bruce Hartlein, LPT (w/enclosure)
Brenda Gotanda, Esq., Manko, Gold & Katcher, LLP (w/enclosure)
Darryl Borrelli, Manko, Gold & Katcher, LLP (w/enclosure)

Tables

TABLE 1

**SUMMARY OF ANALYTICAL RESULTS
FOR POST-EXCAVATION SOIL SAMPLES COLLECTED
FROM EXCAVATION NO. 2 LOCATED AT THE SOUTHEAST END OF BASIN NO. 1 ON
LPT'S 2301 RENAISSANCE BOULEVARD PROPERTY**

ANALYTICAL PARAMETERS	SAMPLE DESIGNATION/ANALYTICAL RESULTS [1,2]	
	SR-9	SR-10
Benzo(a)anthracene	0.76	1.9
Benzo(b)fluoranthene	1.7	2.2
Benzo(a)pyrene	1.1	1.9
Indeno(1,2,3-cd)pyrene	0.94	1.5
Dibenzo(a,h)anthracene	0.26J	0.42J
Dibenzofuran	0.042J	0.13J
Lead	16.6	40.8
Sample Collection Depth:[3]	3.0 (SW)	4.0 (BS)

Notes

(1) - Each sample was analyzed by CompuChem, a USEPA-approved laboratory for benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, dibenzofuran, and lead

(2) - All results are in milligrams per kilogram

(3) - Sample collection depths are in feet below the ground surface

SW - Sidewall sample

BS - Bottom sample

J - This compound was detected below the laboratory reporting limit but above the method detection limit. Therefore, the reported value should be considered an estimated concentration

Table 2 ***Constituents of Potential Concern in Excavation No. 2***
Maximum Concentrations and Arithmetic Mean

	Maximum Concentration (mg/kg)	Arithmatic Mean (mg/kg)
Semi-Volatile Compounds		
Benzo(a)anthracene	1.9	1.3
Benzo(a)pyrene	1.9	1.5
Benzo(b)fluoranthene	2.2	2.00
Dibenzo(a,h)anthracene	0.42	0.34
Indeno(1,2,3-cd)pyrene	1.5	1.2
Dibenzofuran	0.13	0.09
Metals		
Lead	40.8	28.7

Notes:

mg/kg - Milligrams per kilogram

Table 3 ***Toxicity Values for Constituents of Potential Concern***

	RfDo (mg/kg/d)		RfDi (kg-d/mg)	RfDd (kg-d/mg)		CSFo (mg/kg/d)		CSFi (kg-d/mg)		CSFd (kg-d/mg)
Semi-Volatile Compounds										
Benzo(a)anthracene	na		na	na		7.30E-01	e	na		na
Benzo(a)pyrene	na		na	na		7.30E+00	I	3.10E+00	I	na
Benzo(b)fluoranthene	na		na	na		7.30E-01	e	na		na
Dibenzo(a,h)anthracene	na		na	na		7.30E+00	e	na		na
Dibenzofuran	4.00E-03	I	na	2.80E-03	d	na		na		na
Indeno(1,2,3-cd)pyrene	na		na	na		7.30E-01	e	na		na
Metals										
Lead	na		na	na		na		na		na

Notes:

i = IRIS, 2000 (Integrated Risk Information System)
h = HEAST, 1997 (Health Effects Assessment Summary Tables)
e = NCEA regional support provisional value (National Center for Environmental Assessment)
d = Calculated value
na = Not available.

RfDo = Oral reference dose
RfDi = Inhalation reference dose
RfDd = Dermal reference dose
CSFo = Oral cancer slope factor
CSFi = Inhalation cancer slope factor
CSFd = Dermal cancer slope factor

Table 4 ***Oral Intake Factor Assumptions***

		Construction Worker		Industrial Worker	
Dose =	$\frac{Cs \times IR \times ET \times FI \times CF \times EF \times ED}{BW \times AT}$				
Where:					
Dose		RME	CTE	RME	CTE
Cs	= Soil concentration (mg/kg)	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
IR	= Ingestion rate (mg/day)	480	200	50	50
FI	= Fraction Ingested	1	1	1	1
CF	= Correction Factor	1.00E-06	1.00E-06	1.00E-06	1.00E-06
EF	= Exposure frequency (days/yr)	156	78	250	219
ED	= Exposure duration (years)	1	1	25	7
BW	= Body weight (kg)	70	70	70	70
AT	= Averaging time (days)				
	Noncarcinogenic (AT = ED x 365)	365	365	9,125	2555
	Carcinogenic (AT = 70 yr x 365)	25,550	25,550	25,550	25,550
	Noncarcinogenic Oral Dose (mg/kg-day):	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
	Carcinogenic Oral Dose (mg/kg-day):	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific

Table 5 ***Inhalation Intake Factor Assumptions***

		Construction Worker		Industrial Worker	
Dose =	$\frac{Cs/PEF \times IR \times ET \times EF \times ED}{BW \times AT}$				
Where:					
Dose		RME	CTE	RME	CTE
Cs	= Soil concentration (mg/kg)	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
PEF	= Site specific Particulate Emission Factor (m3/kg)	3.84E+6 m3/kg	3.84E+6 m3/kg	3.84E+6 m3/kg	3.84E+6 m3/kg
IR	= Inhalation rate (m3/hr)	3.3	2.5	3.3	1.3
ET	= Exposure Time (hr/day)	8.00	8	8.00	8
EF	= Exposure frequency (days/yr)	156	78	250	219
ED	= Exposure duration (years)	1	1	25	7
BW	= Body weight (kg)	70	70	70	70
AT	= Averaging time (days)				
	Noncarcinogenic (AT = ED x 365)	365	365	9,125	2555
	Carcinogenic (AT = 70 yr x 365)	25,550	25,550	25,550	25,550
	Noncarcinogenic Oral Dose (mg/kg-day):	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
	Carcinogenic Oral Dose (mg/kg-day):	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific

Table 6 ***Dermal Intake Factor Assumptions***

		Construction Worker		Industrial Worker	
Dose =	$\frac{Cs \times SMAFBP \times DABS \times FS \times EF \times ED \times CF}{BW \times AT}$				
Where:					
Dose		RME	CTE	RME	CTE
Cs	= Soil concentration (mg/kg)	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
SMAFBP	=Summation (Adherence factor per body part exposed)	319	319	69	69
DABS	=Dermal Absorption Factor	Chemical- Specific	Chemical- Specific	Chemical- Specific	Chemical- Specific
CF	=Conversion factor	1.00E-06	1.00E-06	1.00E-06	1.00E-06
EV	= Event Frequency	1	1	1	1
EF	= Exposure frequency (days/yr)	156	78	250	219
ED	= Exposure duration (years)	1	1	25	7
BW	= Body weight (kg)	70	70	70	70
AT	= Averaging time (days)				
	Noncarcinogenic (AT = ED x 365)	365	365	9,125	2555
	Carcinogenic (AT = 70 yr x 365)	25,550	25,550	25,550	25,550
	Noncarcinogenic Oral Dose (mg/kg-day):	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
	Carcinogenic Oral Dose (mg/kg-day):	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific

Table 7 ***Non-Carcinogenic Risk***
Based on Maximum Detected Concentrations in Subsurface Soil (Excavation No. 2)
Reasonable Maximum Exposure

Construction Worker

	Oral Intake (mg/kg/day)	Non-Carcinogenic Risk Hazard Quotient	Inhalation Intake (mg/kg/day)	Non-Carcinogenic Risk Hazard Quotient	Dermal Intake (mg/kg/day)	Non-Carcinogenic Risk Hazard Quotient	Total Non-Carcinogenic Risk
Semi-Volatile Compounds							
Benzo(a)anthracene	na	na	na	na			
Benzo(a)pyrene	na	na	na	na			
Benzo(b)fluoranthene	na	na	na	na			
Dibenzo(a,h)anthracene	na	na	na	na			
Dibenzofuran	3.81E-07	9.52E-05	na	na	2.54E-07	9.05E-05	1.86E-04
Indeno(1,2,3-cd)pyrene	na	na	na	na			
Metals							
Lead	na	na	na	na	na	na	
Total		9.52E-05				9.05E-05	1.86E-04

Industrial worker

Semi-Volatile Compounds							
Benzo(a)anthracene	na	na	na	na			
Benzo(a)pyrene	na	na	na	na			
Benzo(b)fluoranthene	na	na	na	na			
Dibenz(a,h)anthracene	na	na	na	na			
Dibenzofuran	6.36E-08	1.59E-05	na	na	8.78E-08	3.13E-05	4.89E-05
Indeno(1,2,3-cd)pyrene	na	na	na	na			
Metals							
Lead	na	na	na	na	na	na	
Total		1.59E-05				3.13E-05	4.89E-05

Table 8 ***Non-Carcinogenic Risk***
Based on Maximum Detected Concentrations in Subsurface Soil (Excavation No. 2)
Central Tendency Exposure

Construction Worker

	Oral Intake (mg/kg/day)	Non-Carcinogenic Risk Hazard Quotient	Inhalation Intake (mg/kg/day)	Non-Carcinogenic Risk Hazard Quotient	Dermal Intake (mg/kg/day)	Non-Carcinogenic Risk Hazard Quotient	Total Non-Carcinogenic Risk
Semi-Volatile Compounds							
Benzo(a)anthracene	na	na	na	na	na	na	
Benzo(a)pyrene	na	na	na	na	na	na	
Benzo(b)fluoranthene	na	na	na	na	na	na	
Dibenz(a,h)anthracene	na	na	na	na	na	na	
Dibenzofuran	5.49E-08	1.37E-05	na	na	8.77E-08	3.13E-05	4.50E-05
Indeno(1,2,3-cd)pyrene	na	na	na	na	na	na	
Metals							
Lead	na	na	na	na	na	na	
Total		1.37E-05				3.13E-05	4.50E-05

Industrial Worker

Semi-Volatile Compounds							
Benzo(a)anthracene	na	na	na	na	na	na	
Benzo(a)pyrene	na	na	na	na	na	na	
Benzo(b)fluoranthene	na	na	na	na	na	na	
Dibenz(a,h)anthracene	na	na	na	na	na	na	
Dibenzofuran	3.86E-08	9.65E-06	na	na	5.32E-08	1.90E-05	2.86E-05
Indeno(1,2,3-cd)pyrene	na	na	na	na	na	na	
Metals							
Lead	na	na	na	na	na	na	
Total		9.65E-06				1.90E-05	2.86E-05

Table 9 ***Carcinogenic Risk***
Maximum Detected Concentration in Subsurface Soil (Excavation No. 2)
Reasonable Maximum Exposure

Construction Worker

	Oral Intake (mg/kg/day)	Carcinogenic Risk Oral	Inhalation Intake (mg/kg/day)	Carcinogenic Risk Inhalation	Dermal Intake (mg/kg/day)	Carcinogenic Risk Dermal	Total Carcinogenic Risk
Semi-Volatile Compounds							
Benzo(a)anthracene	7.96E-08	5.81E-08	na	na	na	na	5.81E-08
Benzo(a)pyrene	7.96E-08	5.81E-07	1.14E-09	3.53E-09	na	na	5.84E-07
Benzo(b)fluoranthene	9.22E-08	6.73E-08	na	na	na	na	6.73E-08
Dibenz(a,h)anthracene	1.76E-08	1.28E-07	na	na	na	na	1.28E-07
Dibenzofuran	na	na	na	na	na	na	na
Indeno(1,2,3-cd)pyrene	6.29E-08	4.59E-08	na	na	na	na	4.59E-08
						na	
Metals							
Lead	na	na	na	na			
Total		8.80E-07		3.53E-09			8.84E-07

Industrial Worker

Semi-Volatile Compounds							
Benzo(a)anthracene	3.33E-07	2.43E-07	na	na	na	na	2.43E-07
Benzo(a)pyrene	3.33E-07	2.43E-06	4.56E-08	1.41E-07	na	na	2.57E-06
Benzo(b)fluoranthene	3.85E-07	2.81E-07	na	na	na	na	2.81E-07
Dibenzo(a,h)anthracene	7.35E-08	5.37E-07	na	na	na	na	5.37E-07
Dibenzofuran	na	na	na	na	na	na	na
Indeno(1,2,3-cd)pyrene	2.63E-07	1.92E-07	na	na	na	na	1.92E-07
						na	
Metals							
Lead	na	na	na	na			
Total		3.68E-06		1.41E-07			3.82E-06

Table 10 ***Carcinogenic Risk***
Maximum Detected Concentraation in Subsurface Soil (Excavation No. 2)
Central Tendency Exposure

Construction Worker

	Oral Intake (mg/kg/day)	Carcinogenic Risk Oral	Inhalation Intake (mg/kg/day)	Carcinogenic Risk Inhalation	Dermal Intake (mg/kg/day)	Carcinogenic Risk Dermal	Total Carcinogenic Risk
Semi-Volatile Compounds							
Benzo(a)anthracene	1.13E-08	8.28E-09	na	na	na	na	8.28E-09
Benzo(a)pyrene	1.31E-08	9.55E-08	3.41E-10	1.06E-09	na	na	9.66E-08
Benzo(b)fluoranthene	1.74E-08	1.27E-08	na	na	na	na	1.27E-08
Dibenzo(a,h)anthracene	2.96E-09	2.16E-08	na	na	na	na	2.16E-08
Dibenzofuran	na	na	na	na	na	na	na
Indeno(1,2,3-cd)pyrene	1.05E-08	7.64E-09	na	na	na	na	7.64E-09
						na	
Metals							
Lead	na	na	na	na			
Total		1.46E-07		1.06E-09			1.47E-07

Industrial Worker

Semi-Volatile Compounds							
Benzo(a)anthracene	5.58E-08	4.07E-08	na	na	na	na	4.07E-08
Benzo(a)pyrene	6.44E-08	4.70E-07	3.48E-09	2.54E-08	na	na	4.95E-07
Benzo(b)fluoranthene	8.58E-08	6.26E-08	na	na	na	na	6.26E-08
Dibenzo(a,h)anthracene	1.46E-08	1.06E-07	na	na	na	na	1.06E-07
Dibenzofuran	na	na	na	na	na	na	na
Indeno(1,2,3-cd)pyrene	5.15E-08	3.76E-08	na	na	na	na	3.76E-08
						na	
Metals							
Lead	na	na	na	na			
Total		7.17E-07		2.54E-08			7.42E-07

FIGURE 1

SITE LAYOUT MAP FOR LPTs
2201/2301 RENAISSANCE BOULEVARD
SHOWING DETENTION BASIN #1

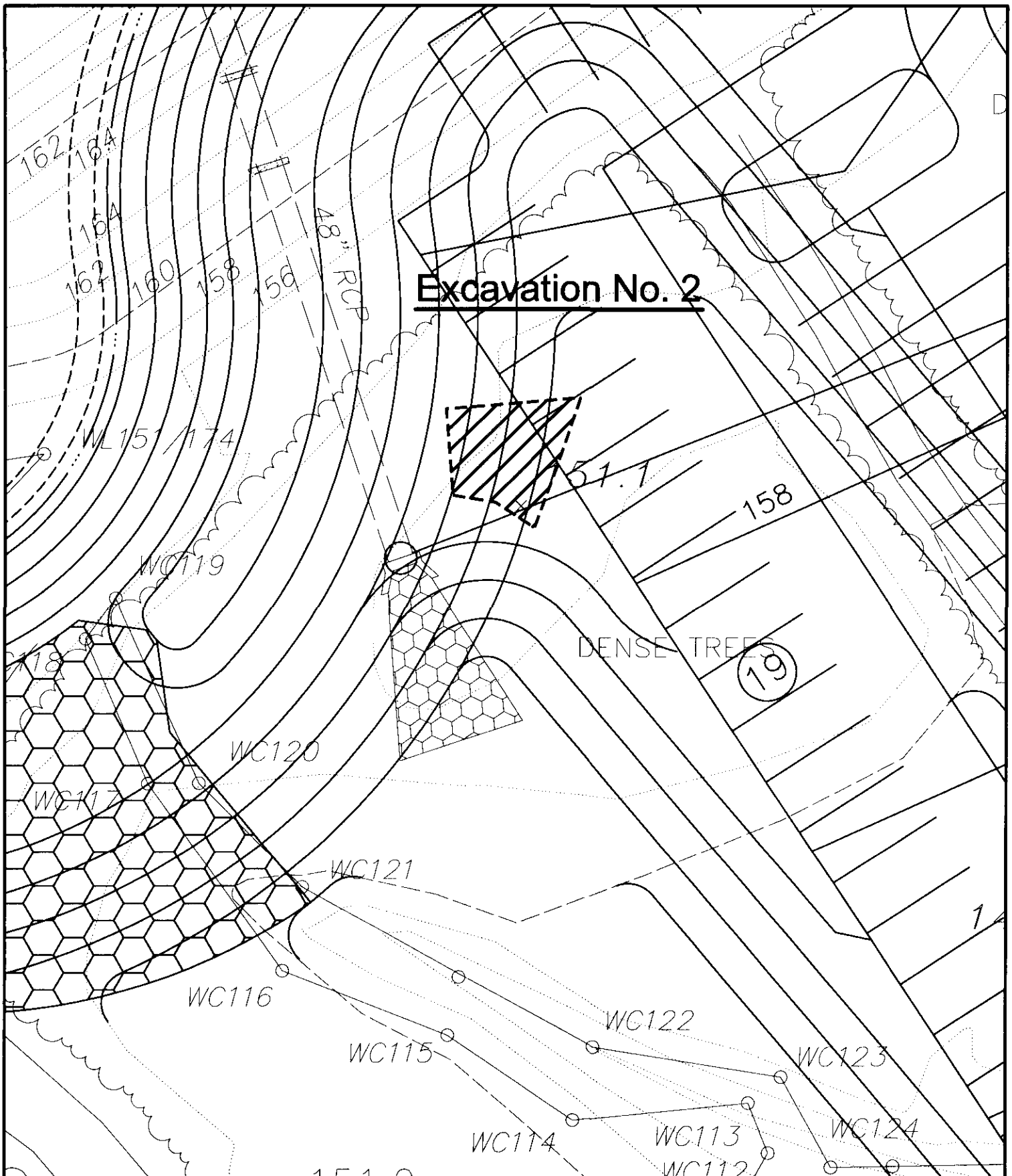
PROJ NO.-4236
SCALE- 1"=170'±
BY- SMD
REVIEWED
APPROVED 21-JUNE-01
DATE

PENN E&R DRAWING NO. 4236-049 (B-SIZE)
FIGURE NO. 1-1
REV.

Penn E&R
Environmental & Remediation, Inc.
2755 BERGEY ROAD, HATFIELD, PENNSYLVANIA, 19440 · 215.997.9000 Fax 215.822.8575

NUMBER	REFERENCE TITLE	NUMBER	NO.	DATE	ACCT.	REVISION	BY	REVIEWED	NORTH

FRACTIONAL · DECIMAL



Penn E&R
Environmental & Remediation, Inc.
2755 BERGEY ROAD, HATFIELD, PENNSYLVANIA, 19440 - 215.997.9000 Fax 215.822.8575

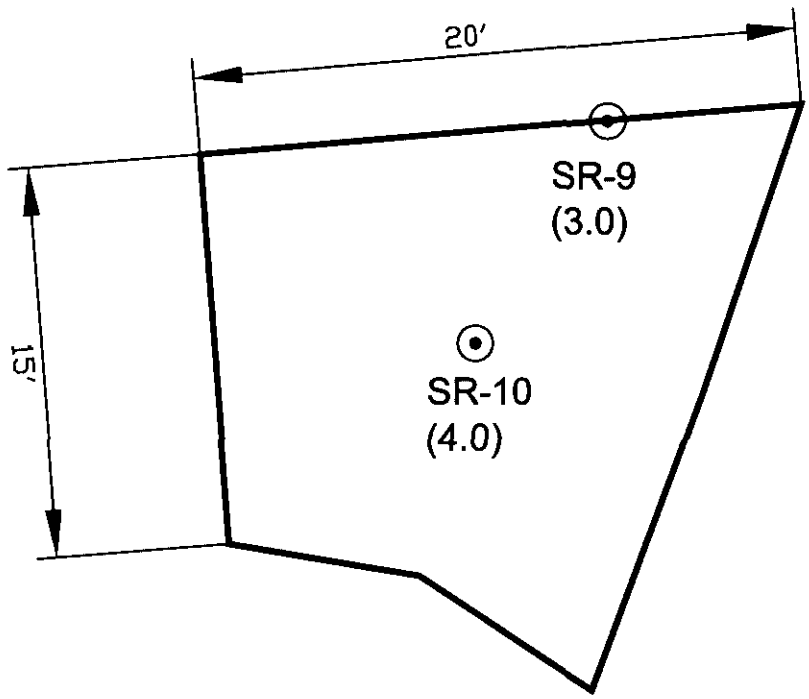
PROJ NO. 4236	
SCALE- 1"-20'	
BY- SMD	
REVIEWED	

FIGURE 2
PARTIAL SITE PLAN FOR 2301 RENAISSANCE BOULEVARD SHOWING SOUTHEAST CORNER OF DETENTION BASIN #1 AND THE LOCATION OF EXCAVATION NO. 2

DATE 07-Sept-01

PENN E&R DRAWING NO.	FIGURE NO.	REV.
4236-049	Layout 1	

0 1 2 FRACTIONAL 2 1 0 DECIMAL



Excavation No.2

LEGEND

SR-10
(4.0)

Soil Sample Location Showing
Sample Collection Depth In Feet

Penn E&R
Environmental & Remediation, Inc.
2755 BERGEY ROAD, HATFIELD, PENNSYLVANIA, 19440 - 215.997.9000 Fax 215.822.5575

PROJ NO. 4236
SCALE- N.T.S.
BY- SMD
REVIEWED

FIGURE 3

EXCAVATION NO.2 PLOT PLAN
SHOWING POST-EXCAVATION
SOIL SAMPLE LOCATIONS

DATE 07-Sept-01

PENN E&R DRAWING NO. 052-Lay 2
FIGURE NO. 4236-052-Lay 2
REV.

FRACTIONAL 0 1 2
DECIMAL 2 1 0

APPENDIX A

SOIL DISPOSAL MANIFESTS FOR EXCAVATION NOs. 2 AND 3

R3 TECHNOLOGIES
7 STEEL ROAD EAST
MORRISVILLE, PA 19067-0847
215.428.1700

Ticket:2679
Date:8/7/01
Time In:10:25 AM

Time Out:10:25 AM
Manifest#152977

PER: PENN E& R

Job: ACT0103010PH

Hauler: HERMANS TRUCKING

Truck: H 33

Gross: 81420
Tare: 29500

Net: 51920 Lbs. 25.96 Tons

Product: Petroleum Hydrocarbon

E. Hickock Jr.

Lic: 06041

Manifest No.: 53977

R3 technologies

R3 Technologies, Inc. • 7 Steel Road East • P.O. Box 847 • Morrisville, PA 19067-0847 • Phone: (215) 428-1700

NON-HAZARDOUS WASTE MANIFEST

1. EPA I.D. No., Generator of Waste: LIBERTY PROPERTY TRUST

Company Name: (Print or Type)

Pick-up Address: 2301 RENNAISANCE BLVD. UPPER MERION PA
(No.) (Street) (City) (State)

Telephone Number: 610-722-4114 Fax Number: 610-644-4129

Waste Stream Identification: This manifest represents a non-hazardous waste as per EPA and PA D.E.P. regulations.

Tons: 20 Cubic Yards: Other: (Specify)

Waste Type: PETROLEUM CONTAMINATED SOIL. with some coal tar

Special Handling Instructions, if any: NONE

PROFILE / WASTE STREAM I.D. NUMBER: ACT0103010PH

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to applicable state and federal law. The wastes were consigned to the transporter named. I certify that the foregoing is true and correct to the best of my knowledge.

Date: 8/6/01 Signature: VP
(Name and Title)

2. Hauler of Waste (must be filled in by hauler) EPA I.D. No.: (if applicable)

COMPANY NAME: Hermans Trucking

ADDRESS: Williamstown NJ

Pick-up Date: 8-7-01 Truck No.: 33 Vehicle Lic. No.: AA139P NJ

The above described waste was picked up and hauled by me to the disposal facility named below and was accepted. I certify under penalty of perjury that the foregoing is true and correct.

E Hillwell Jr.
(Signature of authorized agent and title)

3. Processing Facility: **R3 Technologies, Inc.**
7 Steel Road East
Morrisville, PA 19067-0847
Permit #301254

Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on this date:

8/7/01
(Signature of authorized agent and title)

GENERATOR

R3 TECHNOLOGIES
7 STEEL ROAD EAST
MORRISVILLE, PA 19067-0847
215.428.1700

Ticket:2674
Date:8/7/01
Time In:10:00 AM

Time Out:10:00 AM
Manifest#:53975

PER: PENN E& R

Job: ACT0103010PH

Hauler: HERMANS TRUCKING

Truck: H 34

Gross: 84660
Tare: 31150

Net: 53510 Lbs. 26.755 Tons

Product: Petroleum Hydrocarbon

Lic: 06041

Manifest No.: 53975

R3 technologies

R3 Technologies, Inc. • 7 Steel Road East • P.O. Box 847 • Morrisville, PA 19067-0847 • Phone: (215) 428-1700

NON-HAZARDOUS WASTE MANIFEST

1. EPA I.D. No.: Generator of Waste: LIBERTY PROPERTY TRUST

Company Name: (Print or Type)

Pick-up Address: 2301 RENNAISANCE BLVD. UPPER MERION PA
(No.) (Street) (City) (State)

Telephone Number: 610-722-4114 Fax Number: 610-644-4129

Waste Stream Identification: This manifest represents a non-hazardous waste as per EPA and PA D.E.P. regulations.

Tons: 20 Cubic Yards: Other: (Specify)

Waste Type: PETROLEUM CONTAMINATED SOIL. with some coal tar

Special Handling Instructions, if any: NONE

PROFILE / WASTE STREAM I.D. NUMBER: ACT0103010PH

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to applicable state and federal law. The wastes were consigned to the transporter named. I certify that the foregoing is true and correct to the best of my knowledge.

Date: 8/6/01 Signature: VP
(Name and Title)

2. Hauler of Waste (must be filled in by hauler) EPA I.D. No.: (if applicable)

COMPANY NAME: Hermans Trucking

ADDRESS: Dunellen NJ

Pick-up Date: 8/7/01 Truck No.: 34 Vehicle Lic. No.: AA255U

The above described waste was picked up and hauled by me to the disposal facility named below and was accepted. I certify under penalty of perjury that the foregoing is true and correct.

(Signature of authorized agent and title)

3. Processing Facility: **R3 Technologies, Inc.**
7 Steel Road East
Morrisville, PA 19067-0847
Permit #301254

Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on this date:

8-7-01

(Signature of authorized agent and title)

GENERATOR

R3 TECHNOLOGIES
7 STEEL ROAD EAST
MORRISVILLE, PA 19067-0847
215.428.1700

Ticket:2673
Date:8/7/01
Time In:09:57 AM
Time Out:09:57 AM
Manifest#:53976

PER: PENN E& R

Job: ACT0103010PH

Hauler: HERMANS TRUCKING

Truck: H 36

Gross: 73500
Tare: 24500

Net: 49000 Lbs. 24.5 Tons

Product: Petroleum Hydrocarbon

Lic: 06041

[redacted]

Manifest No.: 53976

R3 technologies

R3 Technologies, Inc. • 7 Steel Road East • P.O. Box 847 • Morrisville, PA 19067-0847 • Phone: (215) 428-1700

NON-HAZARDOUS WASTE MANIFEST

1. EPA I.D. No., Generator of Waste: LIBERTY PROPERTY TRUST

Company Name: (Print or Type) 2301 RENNAISANCE BLVD. UPPER MERION PA

Pick-up Address: (No.) (Street) (City) (State)

Telephone Number: 610-722-4114 Fax Number: 610-644-4129

Waste Stream Identification: This manifest represents a non-hazardous waste as per EPA and PA D.E.P. regulations.

Tons: Cubic Yards: 20 Other: (Specify)

Waste Type: PETROLEUM CONTAMINATED SOIL with some coal tar

Special Handling Instructions, if any: NONE

PROFILE / WASTE STREAM I.D. NUMBER: ACT0103010PH

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to applicable state and federal law. The wastes were consigned to the transporter named. I certify that the foregoing is true and correct to the best of my knowledge.

Date: 8/6/01 Signature: [signature] VP (Name and Title)

2. Hauler of Waste (must be filled in by hauler) EPA I.D. No.: (if applicable)

COMPANY NAME: Hermans Trucking

ADDRESS: 181 Jacobstown Cookstown Rd Wrightstown NJ

Pick-up Date: 8/7/01 Truck No.: 36 Vehicle Lic. No.: AD934E

The above described waste was picked up and hauled by me to the disposal facility named below and was accepted. I certify under penalty of perjury that the foregoing is true and correct.

Alicia Rodriguez #36 (Signature of authorized agent and title)

3. Processing Facility: **R3 Technologies, Inc.**
7 Steel Road East
Morrisville, PA 19067-0847
Permit #301254

Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on this date:

[signature] 8-7-01 (Signature of authorized agent and title)

GENERATOR

R3 TECHNOLOGIES
7 STEEL ROAD EAST
MORRISVILLE, PA 19067-0847
215.428.1700

Ticket:2668
Date:8/7/01
Time In:09:23 AM
Time Out:09:23 AM
Manifest#:53077

PER: PENN E& R

Job: ACT0103010PH

Hauler: HERMANS TRUCKING

Truck: MERT

Gross: 83400
Tare: 24500

Net: 58900 Lbs. 29.45 Tons

Product: Petroleum Hydrocarbon

Lic: 06041

Manifest No.: 53077 (6)

R3 technologies

R3 Technologies, Inc. • 7 Steel Road East • P.O. Box 847 • Morrisville, PA 19067-0847 • Phone: (215) 428-1700

NON-HAZARDOUS WASTE MANIFEST

1. EPA I.D. No., Generator of Waste:

Company Name: (Print or Type) Liberty Prop Trust

Pick-up Address: 2301 Renaissance Blvd. Upper Merion Pa
(No.) (Street) (City) (State)

Telephone Number: 610-722-4114 Fax Number: 610-644-4129

Waste Stream Identification: This manifest represents a non-hazardous waste as per EPA and PA D.E.P. regulations.

Tons: Cubic Yards: 20 Other: (Specify)

Waste Type: Petroleum Cont Soil with some coal tar

Special Handling Instructions, if any: none

PROFILE / WASTE STREAM I.D. NUMBER: A0T 010301 044

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to applicable state and federal law. The wastes were consigned to the transporter named. I certify that the foregoing is true and correct to the best of my knowledge.

Date: 8/[illegible]/01 Signature: [signature] VP
(Name and Title)

2. Hauler of Waste (must be filled in by hauler) EPA I.D. No.:
(if applicable)

COMPANY NAME: Hemmons

ADDRESS: [illegible] NJ

Pick-up Date: 8.7.01 Truck No.: 93 Vehicle Lic. No.: AD586F

The above described waste was picked up and hauled by me to the disposal facility named below and was accepted. I certify under penalty of perjury that the foregoing is true and correct.

[signature]
(Signature of authorized agent and title)

3. Processing Facility: **R3 Technologies, Inc.**
7 Steel Road East
Morrisville, PA 19067-0847
Permit #301254

Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on this date:

[signature] 8-7-01
(Signature of authorized agent and title)

GENERATOR

R3 TECHNOLOGIES
7 STEEL ROAD EAST
MORRISVILLE, PA 19067-0847
215.428.1700

Ticket: 2667
Date: 8/7/01
Time In: 09:21 AM
Time Out: 09:21 AM
Manifest#: 53974

PER: PENN E& R

Job: ACT0103010PH

Hauler: HERMANS TRUCKING

Truck: KISMET

Gross: 80420
Tare: 25500

Net: 54920 Lbs. 27.46 Tons

Product: Petroleum Hydrocarbon

Lic: 06041

Manifest No.: 53974

R3 technologies

R₃ Technologies, Inc. • 7 Steel Road East • P.O. Box 847 • Morrisville, PA 19067-0847 • Phone: (215) 428-1700

NON-HAZARDOUS WASTE MANIFEST

1. EPA I.D. No., Generator of Waste:

Company Name: (Print or Type) LIBERTY PROPERTY TRUST

Pick-up Address: 2301 RENNAISANCE BLVD UPPER MERION PA
(No.) (Street) (City) (State)

Telephone Number: 610-722-4114 Fax Number: 610-644-4129

Waste Stream Identification: This manifest represents a non-hazardous waste as per EPA and PA D.E.P. regulations.

Tons: Cubic Yards: 20 Other: (Specify)

Waste Type: ~~PETROLEUM CONTAMINATED SOIL~~ with some coal tar

Special Handling Instructions, if any: NONE

PROFILE / WASTE STREAM I.D. NUMBER: [illegible]

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to applicable state and federal law. The wastes were consigned to the transporter named. I certify that the foregoing is true and correct to the best of my knowledge.

Date: 8/6/01 Signature: [signature] VP (Name and Title)

2. Hauler of Waste (must be filled in by hauler) EPA I.D. No.: (if applicable)

COMPANY NAME: Hermans

ADDRESS: Wrightstown NJ

Pick-up Date: 8/7/01 Truck No.: 28 Vehicle Lic. No.: AS74R (NJ)

The above described waste was picked up and hauled by me to the disposal facility named below and was accepted. I certify under penalty of perjury that the foregoing is true and correct.

[signature]
(Signature of authorized agent and title)

3. Processing Facility: **R3 Technologies, Inc.**
7 Steel Road East
Morrisville, PA 19067-0847
Permit #301254

Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on this date:

[signature] 8-7-01
(Signature of authorized agent and title)

GENERATOR

R3 TECHNOLOGIES
7 STEEL ROAD EAST
MORRISVILLE, PA 19067-0847
215.428.1700

Ticket:2665
Date:8/7/01
Time In:08:00 AM
Time Out:09:00 AM
Manifest#:53076

PER: PENN E& R

Job: ACT0103010PH

Hauler: HERMANS TRUCKING

Truck: RKO

Gross: 77380
Tare: 24300

Net: 53080 Lbs. 26.54 Tons

Product: Petroleum Hydrocarbon

Lic: 06041

Manifest No.: 53076

R3 technologies

R3 Technologies, Inc. • 7 Steel Road East • P.O. Box 847 • Morrisville, PA 19067-0847 • Phone: (215) 428-1700

NON-HAZARDOUS WASTE MANIFEST

1. EPA I.D. No., Generator of Waste: _____

Company Name: (Print or Type) Liberty Prop Trust

Pick-up Address: 2301 (No.) Renaissance Blvd (Street) Upper Merion (City) PA (State)

Telephone Number: 610-722-4114 Fax Number: 610-644-4129

Waste Stream Identification: This manifest represents a non-hazardous waste as per EPA and PA D.E.P. regulations.

Tons: _____ Cubic Yards: 20 Other: (Specify) _____

Waste Type: Petroleum Contaminated Soil with some coal tar

Special Handling Instructions, if any: None

PROFILE / WASTE STREAM I.D. NUMBER: RQT0103010PA

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to applicable state and federal law. The wastes were consigned to the transporter named. I certify that the foregoing is true and correct to the best of my knowledge.

Date: 8/6/01 Signature: _____ VP (Name and Title)

2. Hauler of Waste (must be filled in by hauler) EPA I.D. No.: _____ (if applicable)

COMPANY NAME: Hermans

ADDRESS: Wrightstown PA

Pick-up Date: 8-7-01 Truck No.: RKO-15 Vehicle Lic. No.: AE616T

The above described waste was picked up and hauled by me to the disposal facility named below and was accepted. I certify under penalty of perjury that the foregoing is true and correct.

_____ (Signature of authorized agent and title)

3. Processing Facility: **R3 Technologies, Inc.**
7 Steel Road East
Morrisville, PA 19067-0847
Permit #301254

Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on this date: _____

_____ 8701
(Signature of authorized agent and title)

GENERATOR

R3 TECHNOLOGIES
7 STEEL ROAD EAST
MORRISVILLE, PA 19067-0847
215.428.1700

Ticket:2664
Date:8/7/01
Time In:08:58 AM

Time Out:08:58 AM
Manifest#:53075

PER: PENN E& R

Job: ACT0103010PH

Hauler: HERMANS TRUCKING

Truck: YKO 94

Gross: 81180
Tare: 25020

Net: 56160 Lbs. 28.08 Tons

Product: Petroleum Hydrocarbon

Lic: 06041

Manifest No.: 53075

R3 technologies

R3 Technologies, Inc. • 7 Steel Road East • P.O. Box 847 • Morrisville, PA 19067-0847 • Phone: (215) 428-1700

NON-HAZARDOUS WASTE MANIFEST

1. EPA I.D. No., Generator of Waste: _____

Company Name: (Print or Type) ~~Penn~~ ~~Et~~ Liberty Prop. Trust

Pick-up Address: 2301 (No.) Renaissance (Street) Blvd (City) Conshohocken (State)

Telephone Number: 610-772-4114 Fax Number: 610-644-4129

Waste Stream Identification: This manifest represents a non-hazardous waste as per EPA and PA D.E.P. regulations.

Tons: _____ Cubic Yards: 750 Other: (Specify) _____

Waste Type: Petrol Coat Soil with some coal tar

Special Handling Instructions, if any: None

PROFILE / WASTE STREAM I.D. NUMBER: 401010301 OPA

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to applicable state and federal law. The wastes were consigned to the transporter named. I certify that the foregoing is true and correct to the best of my knowledge.

Date: 8/6/01 Signature: _____ VP (Name and Title)

2. Hauler of Waste (must be filled in by hauler) EPA I.D. No.: _____ (if applicable)

COMPANY NAME: Hemions

ADDRESS: Wrightstown NJ

Pick-up Date: _____ Truck No.: 94 Vehicle Lic. No.: AF480FM

The above described waste was picked up and hauled by me to the disposal facility named below and was accepted. I certify under penalty of perjury that the foregoing is true and correct.

_____
(Signature of authorized agent and title)

3. Processing Facility: **R3 Technologies, Inc.**
7 Steel Road East
Morrisville, PA 19067-0847
Permit #301254

Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on this date: _____

_____ 8-7-01
(Signature of authorized agent and title)

GENERATOR

R3 TECHNOLOGIES
7 STEEL ROAD EAST
MORRISVILLE, PA 19067-0847
215.428.1700

Ticket:2663
Date:8/7/01
Time In:08:56 AM

Time Out:08:56 AM
Manifest#:53073

PER: PENN E& R

Job: ACT0103010PH

Hauler: HERMANS TRUCKING

Truck: HKO

Gross: 77160
Tare: 25640

Net: 51620 Lbs. 25.76 Tons

Product: Petroleum Hydrocarbon

Lic: 06041

Manifest No.: 53073

R3 technologies

R3 Technologies, Inc. • 7 Steel Road East • P.O. Box 847 • Morrisville, PA 19067-0847 • Phone: (215) 428-1700

NON-HAZARDOUS WASTE MANIFEST

1. EPA I.D. No., Generator of Waste: _____

Company Name: (Print or Type) Liberty Properties Trust

Pick-up Address: 2301 Renaissance Blvd (No.) (Street) Upper Merion (City) PA (State)

Telephone Number: 610-722-4114 Fax Number: 610-644-4129

Waste Stream Identification: This manifest represents a non-hazardous waste as per EPA and PA D.E.P. regulations.

Tons: _____ Cubic Yards: 20 Other: (Specify) _____

Waste Type: Petroleum Cont. Soil with some coal tar

Special Handling Instructions, if any: None

PROFILE / WASTE STREAM I.D. NUMBER: ACT 010301 OPH

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to applicable state and federal law. The wastes were consigned to the transporter named. I certify that the foregoing is true and correct to the best of my knowledge.

Date: 8/6/01 Signature: _____ VP (Name and Title)

2. Hauler of Waste (must be filled in by hauler) EPA I.D. No.: _____ (if applicable)

COMPANY NAME: Nimons

ADDRESS: Wrightstown PA

Pick-up Date: 8.7.01 Truck No.: HKO Vehicle Lic. No.: AD 73125

The above described waste was picked up and hauled by me to the disposal facility named below and was accepted. I certify under penalty of perjury that the foregoing is true and correct.

_____
(Signature of authorized agent and title)

3. Processing Facility: **R3 Technologies, Inc.**
7 Steel Road East
Morrisville, PA 19067-0847
Permit #301254

Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on this date: _____

_____ 8 7 01
(Signature of authorized agent and title)

GENERATOR

R3 TECHNOLOGIES
7 STEEL ROAD EAST
MORRISVILLE, PA 19067-0847
215.428.1700

Ticket:2662
Date:8/7/01
Time In:08:54 AM

Time Out:08:54 AM
Manifest#:53074

PER: PENN E& R

Job: ACT0103010PH

Hauler: HERMANS TRUCKING

Truck: YKO 95

Gross: 73780
Tare: 24600

Net: 49180 Lbs. 24.59 Tons

Product: Petroleum Hydrocarbon

Lic: 06041

Manifest No.: 53074

R3 technologies

R3 Technologies, Inc. • 7 Steel Road East • P.O. Box 847 • Morrisville, PA 19067-0847 • Phone: (215) 428-1700

NON-HAZARDOUS WASTE MANIFEST

1. EPA I.D. No., Generator of Waste: _____

Company Name: (Print or Type) Liberty Prop. Trust

Pick-up Address: 2301 Renaissance Blvd (No.) (Street) Upper Merion (City) Pa (State)

Telephone Number: 610-722-4114 Fax Number: 610-644-4129

Waste Stream Identification: This manifest represents a non-hazardous waste as per EPA and PA D.E.P. regulations.

Tons: _____ Cubic Yards: 20 Other: (Specify) _____

Waste Type: Petrol. Cont. Soil With some coal tar

Special Handling Instructions, if any: None

PROFILE WASTE STREAM I.D. NUMBER: AC TOI 03010 PH

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to applicable state and federal law. The wastes were consigned to the transporter named. I certify that the foregoing is true and correct to the best of my knowledge.

Date: 8/6/01 Signature: _____ VP (Name and Title)

2. Hauler of Waste (must be filled in by hauler) EPA I.D. No.: _____ (if applicable)

COMPANY NAME: Hermans

ADDRESS: Wrightstown NJ

Pick-up Date: 8/6/01 Truck No.: Herm215.42.095 Vehicle Lic. No.: DE405 2N5

The above described waste was picked up and hauled by me to the disposal facility named below and was accepted. I certify under penalty of perjury that the foregoing is true and correct.

_____ (Signature of authorized agent and title)

3. Processing Facility: **R3 Technologies, Inc.**
7 Steel Road East
Morrisville, PA 19067-0847
Permit #301254

Waste subject to this manifest was delivered by the above hauler to this disposal facility and accepted on this date: _____

_____ (Signature of authorized agent and title) 8-7-01

GENERATOR

APPENDIX B

LABORATORY ANALTYICAL DATA SHEETS FOR POST-EXCAVATION SOIL SAMPLES COLLECTED FOR EXCAVATION NO. 2

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SR-9

Lab Name: COMPUCHEM Contract: OLM04-REVS

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: R2141

Matrix: (soil/water) SOIL Lab Sample ID: R2141-13

Sample wt/vol: 30.0(g/mL) G Lab File ID: R2141-13JA66

Level: (low/med) LOW Date Received: 07/06/01

% Moisture: 11 decanted: (Y/N) N Date Extracted: 07/10/01

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/12/01

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0 Extraction: (Type) SONC

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
132-64-9	Dibenzofuran	42	J
56-55-3	Benzo(a)anthracene	760	
205-99-2	Benzo(b)fluoranthene	1700	
50-32-8	Benzo(a)pyrene	1100	
193-39-5	Indeno(1,2,3-cd)pyrene	940	
53-70-3	Dibenzo(a,h)anthracene	260	J

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SR-10

Lab Name: COMPUCHEM Contract: OLM04-REVS

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: R2141

Matrix: (soil/water) SOIL Lab Sample ID: R2141-14

Sample wt/vol: 30.0(g/mL) G Lab File ID: R2141-14D2A66

Level: (low/med) LOW Date Received: 07/06/01

% Moisture: 17 decanted: (Y/N) N Date Extracted: 07/10/01

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/13/01

Injection Volume: 2.0(uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH: 7.4 Extraction: (Type) SONC

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
132-64-9	Dibenzofuran	130	J
56-55-3	Benzo(a)anthracene	1900	
205-99-2	Benzo(b)fluoranthene	2200	
50-32-8	Benzo(a)pyrene	1900	
193-39-5	Indeno(1,2,3-cd)pyrene	1500	
53-70-3	Dibenzo(a,h)anthracene	420	J

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.: SR-9

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: R2141

Matrix (soil/water): SOIL Lab Sample ID: R2141-13

Level (low/med): LOW Date Received: 07/06/01

% Solids: 89.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	16.6			P

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

SR-10

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY Case No.: SAS No.: SDG No.: R2141

Matrix (soil/water): SOIL Lab Sample ID: R2141-14

Level (low/med): LOW Date Received: 07/06/01

% Solids: 82.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	40.8			P

Color Before: BROWN Clarity Before: Texture: MEDIUM,

Color After: YELLOW Clarity After: Artifacts:

Comments: